

Dear Potential Desert Tortoise Caregiver:

Thank you for your interest in adopting a desert tortoise (*Gopherus morafkai*). A captive tortoise can live up to 100 years, so be aware that a tortoise you adopt may outlive you. Please read the following information carefully and determine whether or not you are able to provide the shelter and yard enclosure a desert tortoise needs, as well as the necessary care and treatment. Desert tortoises are typically only adopted from April 1 – September 30 because they hibernate during the cooler months, leaving plenty of time during the winter months to create a habitat.

If you decide you would like to adopt a desert tortoise, please visit the AGFD Captive Desert Tortoise Care website at: <http://www.azgfd.gov/tortoise>. Please also review the checklist below to be sure you have fulfilled the requirements. Then, fill out the application at the end of this booklet and return it with your photo documentation. In some cases, we may request that you give a tortoise adoption expert permission to visit your yard to take a closer look at your tortoise habitat. After you have been approved to adopt a tortoise, we will contact you to make arrangements to pick up your desert tortoise. Your tortoise may be permanently marked so if it becomes lost and then found it can be identified by various animal care agencies or veterinarians. A marked tortoise can be traced back to one of our adoption facilities and returned to you. You may be asked for a donation, or to pay a rehoming fee to cover the costs of caring for tortoises prior to adoption.

Any of the state-sanctioned desert tortoise adoption facilities will accept desert tortoises that can no longer be cared for by adoptive families. Typically, this occurs when adoptive families leave the state or the custodian passes away. Desert tortoises cannot be removed from Arizona, so if you are a desert tortoise custodian and are moving from Arizona, you must return the desert tortoise to one of the adoption facilities. If you relocate within the state, please contact the nearest adoption facility to update your address in our records. **Remember that it is not only illegal to release a captive desert tortoise into the wild, doing so is also detrimental to wild tortoises because it can spread disease and disrupt uniquely adapted genetics in wild populations.** You may adopt a desert tortoise if you are a permanent resident in Arizona. Contact information for desert tortoise adoption facilities are listed below.

Bullhead City, Kingman, Lake Havasu, Phoenix, and Yuma: AGFD Education Branch
(623) 236-7202 or Toll-Free (844) 896-5730; TAP@azgfd.gov

Prescott: Heritage Park Zoo (928) 778-4242; www.heritageparkzoo.org

Tucson: Arizona-Sonora Desert Museum (520) 883-3062; www.desertmuseum.org/programs/tap.html

Caring For a Captive Desert Tortoise

A captive desert tortoise is still wildlife and thus remains the property of the State of Arizona. This distinction allows the state to maintain certain authorities required by state and federal regulations. Responsibility for feeding, veterinary care, safety and general well-being of the tortoise rests with the adoptive family. Children should not be solely responsible for the care of the tortoise. Desert tortoises can be fascinating animals to observe, and families can gain an appreciation of desert wildlife by caring for a tortoise and watching its natural behavior. Before adopting a desert tortoise, we strongly encourage you to learn as much as possible about desert tortoises and desert ecology. Below we have provided basic information about desert tortoise care and adoption; this document is not designed to be a definitive guide.

Captive desert tortoises may not be propagated. Each year there are approximately 300-400 desert tortoises available for adoption in Arizona, not including hundreds of unwanted hatchling tortoises, resulting in an excess of adoptable tortoises. Caring for these tortoises uses resources that would otherwise help with the State's desert tortoise conservation efforts. If your household already has a male and female pair, it is extremely important to create two separate enclosures or have one of your tortoises sterilized by a qualified veterinarian so they cannot breed (you can distinguish males from females only after they have reached more than 6" in length; the plastron, or bottom part of the shell, becomes concave in males, while it is flat in females). A female desert tortoise can store sperm for several years, meaning that mating once can result in several years of hatchlings. By law, hatchlings from captivity must be either given away or turned over to a state-sanctioned adoption facility within 24 months of hatching.

Captive tortoise hatchlings can never be released into the wild. Each wild population of desert tortoises has a unique genetic makeup that is specially adapted to the environment in which it lives. Captive hatchlings, which have an unknown or varied genetic makeup, have the potential to disrupt the unique genetics of a wild population if released. Additionally, captive hatchlings can acquire the same diseases as adult tortoises in captivity, which can spread into wild populations upon release.

General

The desert tortoise is a reptile, so it can't regulate its body temperature like warm-blooded animals. Instead, the tortoise needs to spend much of its time in a thick-walled, insulating shelter for refuge from temperatures that are too hot or too cold. In the winter, your desert tortoise will hibernate and emerge only on the very warmest days.

A desert tortoise is a solitary animal and does not require any additional tortoises to keep it company. If you already have a desert tortoise, you may be allowed to adopt another as long as it is the same gender as your current tortoise. To prevent breeding, we do not adopt out male and female tortoises to the same household.

Please provide time for your tortoise to acclimate to a dog. There have been many cases where even well behaved dogs have mauled desert tortoises, resulting in severe injuries and expensive veterinarian bills. In most cases, dogs and tortoises coexist with few problems. If you have a dog that expresses interest in your tortoise, please construct a barrier that is high enough to exclude the dog. Desert tortoises must be housed separately from other species of turtles or tortoises, as potentially fatal diseases and parasites can be spread among species.

Enclosure

Your captive desert tortoise requires a secure habitat consisting of an enclosure with at least one shelter. We recommend an area of at least 18' x 18' (324 sq. ft.) which includes a patch of grass around 6' x 6'. Your pool, spa, or fish pond must also be fenced off separately. Desert tortoises cannot swim, so if they fall into deep water, they will drown.

The tortoise must always be able to get to shade, sun, water, and dry ground. Shade is an important component of your tortoise's backyard habitat so that it can take refuge from the sun when it is outside of its shelter. You can create shade in the enclosure planting medium and large shrubs, or by building a shade ramada with an awning. You can provide water in a glazed pottery or heavy plastic plant saucer that is about 2 inches deep and larger in diameter than your tortoise. Gravel is not a suitable ground cover for an entire enclosure.

Your entire backyard can serve as the enclosure if it is fenced. If your backyard is not fenced, you can create an enclosure by stacking cinder blocks at least 18" high (you may need 3 or more layers of blocks). If the enclosure wall is constructed of hardware cloth or a similar material, you will need to create a lip along the top edge to ensure the tortoise cannot escape if it climbs the wall.

If your backyard fence is chain link, your tortoise can see out of the enclosure and might try to escape. If this occurs, you can create a visual barrier approximately 16" high against the bottom of the chain link using rocks, cinder blocks, opaque Plexiglas, or wood.

We recommend self-closing gates so that they are not accidentally left open. Gates should be and at least 18" high, with no open space below, so the tortoise cannot easily escape.

Do not use dry fertilizer, snail bait, weed or pest sprays or systemic poisons in the enclosure. Many pest control chemicals can kill tortoises, so ask your pest control company to use natural or synthetic pyrethrum sprays, which are not harmful to tortoises.

Shelter

The shelter serves an important function in protecting the tortoise from the extreme heat and aridity of the summer, and providing a place to hibernate in the winter. It is important that you build a shelter that is well-insulated. Insulation can be provided by adding soil to the top, sides and bottom of the shelter.

Shelters can either be stationary, meaning they remain in place year around, or portable, meaning easily moved with the seasons to take advantage of either shade (in the summer) or sun (in the winter). Stationary shelters can be constructed out of a 5-gallon bucket or large metal trash, or cinder blocks (covered with a ceramic tile backer board). A bucket or trash can needs to be cut in half and placed lengthwise so that it sits level on the ground. If opting for cinder blocks, arrange 6 blocks into a "U" shape, and cover with a piece of ceramic tile backer board (e.g., Hardieboard™) or a piece of flat rock such as flagstone. For either stationary shelter, rocks can be placed around the sides and back to prevent erosion, and 8" layer of soil added on the top, sides, and back for stabilization and insulation. The portable tortoise house can be constructed out of plywood that sandwiches foam core insulation. The portable tortoise shelter does not need to be covered with soil, and would be ideal for those in areas where tortoises must be hibernated indoors, as it can be simply carried inside the garage or the house.

The shelter should be in a high and dry spot, above the water line from flood irrigation or away from areas where water collects after rains. It is critical that the tortoise shelter stay dry during rains. A damp den will cause your tortoise to become susceptible to various respiratory ailments that require costly veterinarian treatment.

For complete instructions and photographs on how to build different kinds of shelters for your desert tortoise, refer to the AGFD Captive Desert Tortoise Care website: www.azgfd.gov/tortoise. If you do not have access to the internet, you can request a paper copy of the shelter construction instructions through AGFD at (602) 942-3000 or by visiting any AGFD Office, or the Arizona-Sonora Desert Museum (contact information above).

Hibernation

Desert tortoises hibernate from October through March (but hibernation may begin as early as September and end as late as July). During this time your tortoise will retreat to its shelter and may not emerge until spring or the onset of the summer rains, although it might come out on warm days for water. Healthy captive desert tortoises, even hatchlings, should be allowed to hibernate in an outdoor shelter, whenever possible. However, sick tortoises should not be allowed to hibernate.

If your tortoise does not move into its shelter by the time temperatures at night go below 50° F, or you are not sure the shelter will remain dry during winter rains you will need to hibernate it in a cool, dark area of your garage. If you live outside of natural range of the desert tortoise (such as Prescott), the tortoise will need to be hibernated in cool dark area inside your home (such as a closet) that, ideally, does not go below 65° F. A heavy cardboard box, non-transparent plastic storage container packed, or portable tortoise house with shredded paper or straw generally provides adequate protection. The box should be covered with several layers of blankets or newspapers, and it should be kept up off the floor away from any holes that could lead to drafts or rodent invasion.

Dehydration is a risk to desert tortoises during hibernation in dry winters. Before your tortoise retreats to hibernation, you may soak it in 1-3 inches of tepid tap water, depending upon the size of your tortoise, for 20 minutes; be sure to dry your tortoise completely before it heads into its shelter and it begins hibernation. For more information on hibernating tortoises indoors visit www.azgfd.gov/tortoise.

Diet

Make sure that water is available in the enclosure. Your tortoise will get much of the water it needs from its food, so you may not see it drink frequently. However, tortoises enjoy soaking occasionally, so the water dish should be a few inches deep and wide enough for the tortoise to sit in.

The desert tortoise is an herbivore, and needs to eat only plants. A complete list of plants and acceptable produce for captive desert tortoises is on the next page. Do not feed your tortoise dog or cat food, monkey chow, or any food that contains more than 15% protein, as this will cause liver and kidney damage and a deformed shell growth. Provide a variety of foods to meet your tortoise's nutritional needs. In general, commercial produce is less nutritious than native plants because of higher water and lower fiber content. Ideally, you should allow your tortoise to

browse on plants that you can establish in your backyard. For example, grass in your backyard can contribute a significant portion to your tortoise's healthy diet if you establish a patch large enough for your tortoise to browse when it is hungry. There are many native grasses and other plants that you can establish in your yard that are favored by desert tortoises in the wild (see below). You can purchase native plant seeds at the Arizona Native Plant Society website (<http://www.aznps.com/sources.php>) or by inquiring at your local nurseries.

Tortoises also enjoy prickly pear cactus fruit, which can be fed to a captive desert tortoise when in season. Fruits have too much sugar and water to be fed in large amounts; not more than 10% of its diet should consist of fruit. Also, do not feed tortoises frozen vegetables or sodium-rich foods including canned vegetables, dairy products, breads, and celery.

Captive Desert Tortoise Diet

Favored native plants (tortoises will consume entire plant unless otherwise noted)

Indian Mallow (<i>Abutilon</i> spp.)	Evening primrose* (<i>Oenothera</i> spp.)
Arizona cottontop grass (<i>Digitaria</i> spp.)	Fern acacia (flowers) (<i>Acacia angustissima</i>)
Bamboo muhly grass (<i>Muhlenbergia dumosa</i>)	Globe mallows* (<i>Sphaeralcea</i> spp.)
Blue grama grass (<i>Bouteloua gracilis</i>)	Morning glory (Convolvulaceae)
Buckwheats (<i>Eriogonum</i> spp.)	Plantain* (<i>Plantago</i> spp.)
Cassia (<i>Senna</i> spp.)	Prickly pear (fruit and new pads) (<i>Opuntia</i> spp.)
Curly mesquite grass (<i>Hilaria belangeri</i>)	Hibiscus (flowers and leaves) (<i>Hibiscus denudatus</i> and <i>H. coulteri</i>)
Deer grass (<i>Muhlenbergia rigens</i>)	Spurges* (<i>Euphorbia</i> spp.)
Desert four-o'clock (<i>Mirabilis spectabilis</i>)	Trailing four-o'clock (<i>Allionia incarnata</i>)
Desert honeysuckle (<i>Anisacanthus thurberi</i>)	Vine mesquite grass (<i>Panicum obtusum</i>)
Desert senna (<i>Cassia covesii</i>)	
Desert willow (flowers) (<i>Chilopsis linearis</i>)	

Acceptable produce

Barley	Kale
Bean sprouts (mung)	Mustard greens
Beet greens	Parsley
Bok choy	String beans
Carrot greens	Snow peas
Cilantro	Spinach
Collard greens	Turnip greens
Endive	

Other healthy foods

Grass, i.e., Bermuda or timothy (fresh or hay)	Grape leaves and shoots
Bluegrass lawn	Mulberry leaves*
Cantaloupe leaves	Pumpkin leaves*
Clover*	Rose petals*
Dandelion greens	Watercress
	Zucchini/squash leaves

* = good for young desert tortoises

Avoid the following

Alfalfa	Mushrooms
Avocado	Any protein rich foods
Cabbage	Canned and frozen vegetables
Celery	Starchy vegetables (including corn)
Cucumber	Chinaberry berries
Fruit (all types)	Plants in the <i>Nicotiana</i> (tobacco) genus
Lettuce (all types)	

Health

If you adopt a desert tortoise, you are responsible for caring for its health. There are several experienced reptile veterinarians throughout the state who can examine your tortoise and determine if it is sick. Common symptoms of illness in a desert tortoise include runny nose, swollen eyelids, wheezing, lethargy, weight loss, and loss of appetite. If you do not know of a reptile veterinarian, call any of the listed AGFD sanctioned adoption facilities (contact info above) for a referral in your area; or you can find veterinarians certified by the Association of Reptilian and Amphibian Veterinarians by entering your city in the searchable membership directory at: <http://www.arav.org/find-a-vet>.

For more information

Books

The Sonoran Desert Tortoise: Natural History, Biology, and Conservation by Thomas R. Van Devender. Published by University of Arizona Press, 2002.

Health Care and Rehabilitation of Turtles and Tortoises by Amanda Ebenhack. Published by Living Art, 2012; www.livingartpublishing.com.

Tortoises and Box Turtles: A Complete Owner's Manual by Hartmut Wilke and Gyorgy Jankovics. Published by Barron's Educational Series, 2000.

Web resources

Arizona Game and Fish Department: www.azgfd.gov/tortoise

Arizona-Sonora Desert Museum: www.desertmuseum.org/programs/tap.php

Tortoise Group: www.tortoisegroup.org

Contributors

Arizona Game and Fish Department, Phoenix, AZ

Arizona-Sonora Desert Museum, Tucson, AZ

James L. Jarchow, D.V.M., Tucson, AZ

Jay Johnson, D.V.M., Mesa, AZ

Jim Shurtliff, Phoenix, AZ

Todd Driggers, D.V.M., Gilbert, AZ

Checklist

Please make sure you have fulfilled these requirements before applying to adopt a desert tortoise

- ☐ Have you familiarized yourself with desert tortoises and their proper care:
- ☐ Have you constructed a secure habitat for keeping a desert tortoise?
- ☐ Do you have a fenced-in yard that is composed of a mix of self-sustaining grass and desert topsoil? If not, have you created an enclosure with a mix of grass and desert topsoil that will be large enough for a desert tortoise (approximately 325 square feet for an adult tortoise)?
- ☐ Have you constructed an appropriate that will insulate your tortoise from the heat and cold?
- ☐ Have you taken photos of the following elements of your enclosure?*

 - ☐ Enclosure (entire to show ground cover, and perimeter)
 - ☐ Shelter
 - ☐ Water source (plant saucer)
 - ☐ Food source
 - ☐ Shade (tree/shrub/constructed)
 - ☐ Fence (to show construction material)
 - ☐ Security measures (e.g., gates)
 - ☐ Any other important feature of the backyard habitat

- *please note that photos will not be returned
- ☐ Have you made your backyard safe from potential hazards to a desert tortoise, like a pool, toxic chemicals, or an overly interested family dog?
- ☐ Are you committed to caring for a desert tortoise for many years, possibly for the rest of your life?
- ☐ Have you thought about what will happen if you move away from Arizona or can otherwise no longer care for it?
- ☐ Have you considered that you are responsible for the health and well-being of the tortoise, even if it gets sick and requires veterinary treatment?

If you have answered yes to all of the above, proceed to the application!